

FIG. 1

A SWLA1: LIGHT CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE VL DOMAIN OF CHIMERIC ANTIBODY TEDW

EcoRV (242)

GGGGATATCCACCATGGAGACAGACACACTCCTGCTATGGGTGCTGCTGCTCTGGGTCCAGGTTCCACAGGTGACATTGT

▶ M E T D T L L L W V L L L W V P G S T G D I V

PstI (377)

GCTGACCCAATCTCCAGTTTCTTTGGCTGTGTCTCTAGGGCAGAGGGCCACCATATCCTGCAGAGCCAGTGAAAGTGTGA

▶ L T Q S P V S L A V S L G Q R A T I S C R A S E S V D

KpnI (427)

TAGTTATGGCAATAGTTTTATGAACTGGTACCAGCAGAAACCAGGACAGCCACCCCAACTCCTCATCTATCGTGCATCCAA

▶ S Y G N S F M N W Y Q Q K P G Q P P Q L L I Y R A S N

XbaI (482)

TCTAGAATACGGGATCCCTGCCAGGTTCACTGGCAGTGGGTCTAGGACAGACTTCACCCCTACCATTAACTCCTGTGGAGGC

▶ L E Y G I P A R F S G S G S R T D F T L T I N P V E A

TGATGATGTTGCAACCTATTACTGTGAGCAAAATAATGCGGATCCTCCACGTTCCGAGGGGGGACCAAGTTGGAAATCAA

▶ D D V A T Y Y C Q Q N N A D P P T F G G G T K L E I K

SalI (650)

ACGTAAGTCGACGCT

▶ R K S

B SWLA1: HEAVY CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE VH DOMAIN OF CHIMERIC ANTIBODY TEDW

EcoRV (242)

GGGGATATCCACCATGGCTGTCTTGGGGCTGCTCTTCTGCCTGGTGACATTCCCAAGCTGTGTCTGTCTCCAGGTGC

▶ M A V L G L L F C L V T F P S C V L S Q V

AGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATCACATGCACTGTCTCAGGGTTCTCA

▶ Q L K E S G P G L V A P S Q S L S I T C T V S G F S

TTAACCAACTATGATATAAATTGGGTTCCGCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGGAATAATATGGGGTGA

▶ L T N Y D I N W V R Q P P G K G L E W L G I I W G D

CGGGAGCACAAATTATCATTGAGCTCTCATATCCAGACTGAGCATCAGCAAGGATAACTCCAAGAGCCAAATTTTCT

▶ G S T N Y H S A L I S R L S I S K D N S K S Q I F

TAAAACTGAACAGTCTGCAAACTGATGACACAGCCACGTACTACTGTAACCTACCCGTGTTTATATTTCTATGGTATG

▶ L K L N S L Q T D D T A T Y Y C N Y P C L Y F Y G M

NheI (663)

SalI (684)

GACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCTTCAGCTAGCACAAACAGCCCCATCAGTCGACCCA

▶ D Y W G Q G T S V T V S S A S

FIG. 2

A

SWLA2: LIGHT CHAIN SEQUENCE

*DNA AND AMINO ACID SEQUENCE OF THE
VL DOMAIN OF CHIMERIC ANTIBODY TEFE*

EcoRV (243)
GGGGATATCCACCATGGATTTTCAAGTGCAGATTTTCAGCTTCCTGCTAATCAGTGTACAGTCATATTGACCAATGGAGAAA
▶ M D F Q V Q I F S F L L I S V T V I L T N G E
BstEII (372) PstI (384)
TTTTGCTCACCCTGCTCCAGCAATCATAGCTGCATCTCCTGGGGAAAAGGTACCATCACCTGCAGTGCCAGCTCAAGTGTT
▶ I L L T P S P A I I A A S P G E K V T I T C S A S S S V
KpnI (419)
AGTTACATGAACCTGGTACCAGCAGAAACCAGGATCTTCCCCAAAATCTGGATTTATGGTGTATCCAACCTGGCTTCTGGAGT
▶ S Y M N W Y Q Q K P G S S P K I W I Y G V S N L A S G V
TCCTGCTCGCTTCAGTGGCAGTGGGTCTGGGACATCTTTCTCTTTCACAATCAACAGCATGGAGGCTGAAGATGTTGCCACTT
▶ P A R F S G S G S G T S F S F T I N S M E A E D V A T
Sall (642)
ATTACTGTCAGCAAAGGAGTAGTTACCCATTACGTTCCGGCTCGGGACCAAGCTGGAAATAAAACGTAAGTCGACGCT
▶ Y Y C Q Q R S S Y P F T F G S G T K L E I K R K S

B

SWLA2: HEAVY CHAIN SEQUENCE

*DNA AND AMINO ACID SEQUENCE OF THE
VH DOMAIN OF CHIMERIC ANTIBODY TEFE*

EcoRV (242) NdeI (295)
GGGATATCCACCATGGACAGGCTTACTTCTTCATTCTCTGCTACTGATTGTTCTCTGCATATGTCCTCTCCCAGGTTACTCT
▶ M D R L T S S F L L L I V P A Y V L S Q V T L
GAAAGAGTCTGGCCCTGGGATATTGCAGCCCTCCAGACCTCAGTCTGACTTGTTCTTTCTCTGGGTTTTCACTGAGAA
▶ K E S G P G I L Q P S Q T L S L T C S F S G F S L R
CTTATGGTATAGGAGTAGGCTGGATTCTGTCAGCCTTCAGGGAGGGGTCTGGAGTGGCTGGCACACATTTGGTGAATGAT
▶ T Y G I G V G W I R Q P S G R G L E W L A H I W W N D
ScaI (484)
AATAAGTACTATAACACAGTCCTGAAGAGCCGGCTCACAATCTCCAAGGATACCTCCAACAACCAGGTATTCTCAAGAT
▶ N K Y Y N T V L K S R L T I S K D T S N N Q V F L K I
CGCCAGTGTGGACACTGCAGATACTGCCACATACTACTGTGCGGAATAGAGGGGGGCTCGGGCTACGATGTTATGGACT
▶ A S V D T A D T A T Y Y C A R I E G G S G Y D V M D
NheI (675) Sall (696)
ACTGGGGTCAAGGAATCTCAGTCACCGTCTCTTCAGCTAGCACAACACCCCCATCTGTGACCCCA
▶ Y W G Q G I S V T V S S A S

FIG. 3

A SWLA3: LIGHT CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE VL DOMAIN OF CHIMERIC ANTIBODY TEFC

EcoRV (242)

GGGATATCCACCATGATGAGTCCTGCCAGTTCCTGTTTCTGTTAGTGCTCTGGATTGGGAAACCAACGGTGATGTTGTG

▶ M M S P A Q F L F L L V L W I R E T N G D V V

BstEI (347)

ATGACCCAGACTCCACTCAGTTTGTGCGTTACCATTTGGACAACCAGCCTCCATCTCTTGCAAGTCAAGTCAGAGCCTCTTA

▶ M T Q T P L T L S V T I G Q P A S I S C K S S Q S L L

GATCGTGATGGAAGGACATATTTGAGTTGGTTGTTACAGAGGCCAGGCCAGTCTCCAAAGCGCCTAATCTATCTGGTGTCT

▶ D R D G R T Y L S W L L Q R P G Q S P K R L I Y L V S

AAACTGGACTCTGGAGTCCCTGACAGGTTCACTGGCAGTGGATCAGGGACAGATTTCACACTGAAAATCAGCAGAGTGGAG

▶ K L D S G V P D R F T G S G S G T D F T L K I S R V E

GCTGAGGATTTGGGAGTTTATTATTGCTGGCAAGGTACACATTTTCCGCTCACGTTCCGTGCTGGGACCAAGCTGGAGCTG

▶ A E D L G V Y Y C W Q G T H F P L T F G A G T K L E L

Sall (653)

AAACGTAAGTCGACC

▶ K R K S

B SWLA3: HEAVY CHAIN SEQUENCE DNA AND AMINO ACID SEQUENCE OF THE VH DOMAIN OF CHIMERIC ANTIBODY TEFC

EcoRV (1425)

GATATCCACCATGGACTTCGGGTTGAGCTTGGTTTTCCTTGTCCITACTTTTAAAGGTGTCCAGTGTGACGTGAAGCTGGT

▶ M D F G L S L V F L V L T L K G V Q C D V K L V

GGAGTCTGGGGGAGGCTTAGTGAACCTGGAGGGTCCCTGAAACTCTCCTGTGCAGCCTCTGGATTACATTTTCAGTAGCTA

▶ E S G G G L V N P G G S L K L S C A A S G F T F S S Y

BspEI (1611)

TACCATGTCCTGGGTTGCCAGACTCCGGAGAAGAGGCTGGAGTGGGTGCGATCCATTAGTAGTGGTGGTACTTACACCTA

▶ T M S W V R Q T P E K R L E W V A S I S S G G T Y T Y

CTATCCAGACAGTGTGAAGGGGCGATTACCATCTCCAGAGACAATGCCAAGAACACCCCTGTACCTGCAAATGACCAGTCT

▶ Y P D S V K G R F T I S R D N A K N T L Y L Q M T S L

GAAGTCTGAGGACACAGCCATGTATTACTGTTCAAGAGATGACGGCTCCTACGGCTCCTATTACTATGCTATGGACTACTG

▶ K S E D T A M Y Y C S R D D G S Y G S Y Y Y A M D Y W

NheI (1861)

GGGTCAAGGAACCTCAGTCACCGTCTCTTCAGCTAGCTCAACACCCCATCAGTCGACCCA

▶ G Q G T S V T V S S A S

Figure 1: Schematic representation of the experimental design. The diagram shows a flow from 'Stimulus' to 'Response' and 'Reaction time'. The 'Stimulus' is a 2x2 grid of letters (A, B, C, D) with a central fixation point. The 'Response' is a 2x2 grid of letters (A, B, C, D) with a central fixation point. The 'Reaction time' is a 2x2 grid of letters (A, B, C, D) with a central fixation point. The 'Stimulus' and 'Response' are connected by a double-headed arrow. The 'Reaction time' is connected to the 'Response' by a double-headed arrow. The 'Stimulus' and 'Reaction time' are connected by a double-headed arrow.

SWLA1: LIGHT CHAIN SEQUENCE
*DNA AND AMINO ACID SEQUENCE OF THE
 ABERRANT VL DOMAIN*

EcoRI EcoRV

CAGAATTGCCCCTTGGGGATATCCACCATGGAGACAGACACACTCCTGCTATGGGTACTGCTGCTCTGGGTTCCAGGT

▶ M E T D T L L L W V L L L W V P G

TCCACTGGTGACATTGTGCTGACACAGTCTCCTGCTTCCTTAGCTGTATCTCTGGGGCAGAGGGCCACCATCTCATACT

▶ S T G D I V L T Q S P A S L A V S L G Q R A T I S Y

AGGGCCAGCAAAAGTGTCACTACATCTGGCTATAGTTATATGCACTGGAACCAACAGAAACCAGGACAGCCACCCAGA

▶ R A S K S V S T S G Y S Y M H W N Q Q K P G Q P P R

EcoO109I

CTCCTCATCTATCTTGTATCCAACCTAGAATCTGGGGTCCCTGCCAGGTTCACTGGCAGTGCGGTCTGGGACAGACTTC

▶ L L I Y L V S N L E S G V P A R F S G S G S G T D F

PfiMI

ACCCTCAACATCCATCCTGTGGAGGAGGAGGATGCTGCAACCTATTACTGTCAGCACATTAGGGAGCTTACACGTTTCG

▶ T L N I H P V E E E D A A T Y Y C Q H I R E L T R S

GAGGGGGGACCAAGCTGGAATAAAACGGNCTNATGCTGCACCAACTGTATCCATCTTNAAAANCATCAGTTCTAGAG

▶ E G G P S W K .

EcoRI

AAGGGCGAATTCC

FIG. 5

SWLA1: HEAVY CHAIN SEQUENCE
*DNA AND AMINO ACID SEQUENCE OF THE
 NON-EFFECTIVE 2ND VH DOMAIN*

EcoRV (242)

GGGGATATCCACCATGAACCTTCGGGTTGAGCTGGGTTTTCTTTTGTTGTTTTTTATCAAGGTGTGCATTGTGAGGTGCA
▶ M N F G L S W V F F V V F Y Q G V H C E V Q
GCTTGTGTGAGACTGGTGGAGGATTGGTGCAGCCTAAAGGGTCATTGAAACTCTCATGTGCAGCCTCTGGATTACCTT
▶ L V E T G G G L V Q P K G S L K L S C A A S G F T F
CAATACCAATGCCATGAACCTGGGTCCGCCAGGCTCCAGGAAAGGGTTTTGGAATGGGTTGCTCGCATAAGAAGTAAAG
▶ N T N A M N W V R Q A P G K G L E W V A R I R S K S
TAATAACTATGCAACATATTATGCCGATTCACTGGAAGACAGGTTACCATCTCCAGAGATGATTACAAAGCATGCT
▶ N N Y A T Y Y A D S V E D R F T I S R D D S Q S M L
CTATCTGCAAAATGAACAACTTGAAAACCTGAGGACACAGCCATGTATTACTGTGTGAGAACTACTATGATTACGACGC
▶ Y L Q M N N L K T E D T A M Y Y C V R N Y Y D Y D A

NheI (675)

CTGGTCCGCTTACTGGGGCCAAGGGACTGTGGTCACTGTCTCTTCAGCTAGCACAAACCCCCATCAGTCTACCCA
▶ W S A Y W G Q G T V V T V S S A S

[illegible]

SWLA1: HEAVY CHAIN SEQUENCE
*DNA AND AMINO ACID SEQUENCE OF THE
ABERRANT VH DOMAIN*

EcoRI
CAGAATTGCGCCCTTGGGGATATCCACCATTGGAGACAGACACACTCCTGCTATGGGTACTGCTGCTCTGGGTTCCAGGT
M E T D T L L L W V L L L W V P G
TCCACTGGTGACATTGTGCTGACACAGTCTCCTGCTTCCTTAGCTGTATCTCTGGGGCAGAGGGCCACCATCTCATAC
S T G D I V L T Q S P A S L A V S L G Q R A T I S Y
AGGGCCAGCAAAAGTGTCACTACATCTGGCTATAGTTATATGCACTGGAACCAACAGAAACCAGGACAGCCACCCAGA
R A S K S V S T S G Y S Y M H W N Q Q K P G Q P P R
EcoO109I
CTCCTCATCTATCTTGTATCCAACCTAGAATCTGGGGTCCCTGCCAGGTTCACTGGCAGTGGGTCTGGGACAGACTTC
L L I Y L V S N L E S G V P A R F S G S G S G T D F
PflMI
ACCTCAACATCCATCCTGTGGAGGAGGAGGATGCTGCAACCTATTACTGTGACACATTAGGGAGCTTACACGTTCC
T L N I H P V E E E D A A T Y Y C Q H I R E L T R S
GAGGGGGGACCAAGCTGGAATAAAACGGNCTNATGCTGCACCAACTGTATCCATCTTNAAAANCATCAGTTCTAGAG
E G G P S W K .
EcoRI
AAGGGCGAATTCC

FIG. 7

SWLA2: HEAVY CHAIN SEQUENCE
*DNA AND AMINO ACID SEQUENCE OF THE
 ABERRANT VH DOMAIN*

EcoRI EcoRV

GGAATTGCGCCCTTGGGGATATCCACCATTGGGATGGAGCTGGGTTCATGCTCTTTCTCCTGGCAGGAACGCAGGTGTCCT

▶ M G W S W V M L F L L A G T A G V L

EcoRV

CTCTGAGGTCCAGCTGCAACAGTCTGGACCTGAGCTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGACTTCT

▶ S E V Q L Q Q S G P E L V K P G A S V K I S C K T S

GGATACACATTCACCTGAATACAACATGCACTGGGTGAAACAGAGCCATGGAAAGAGCCTTGAGTGGATTGGAGGTATTA

▶ G Y T F T E Y N M H W V K Q S H G K S L E W I G G I

ATCCTAACAATGGTGGTACTAGTTACAACCAGAAGTTCAAGGCCAAGGCCACATTGACTGTAGACAAGTCCTCCAGCAC

▶ N P N N G G T S Y N Q K F K A K A T L T V D K S S S T

AGCCTACATGGAGCTCCGCAACCTGACATCTGAGGATTCTGCAGTCTATTACTGTGCAAGGGGGGTTTTATGATGGTTA

▶ A Y M E L R N L T S E D S A V Y Y C A R G V Y D G Y

CTCCCTTTTGACTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCAGCCAAAACAACAGCCCCATCGGTCTATCCAC

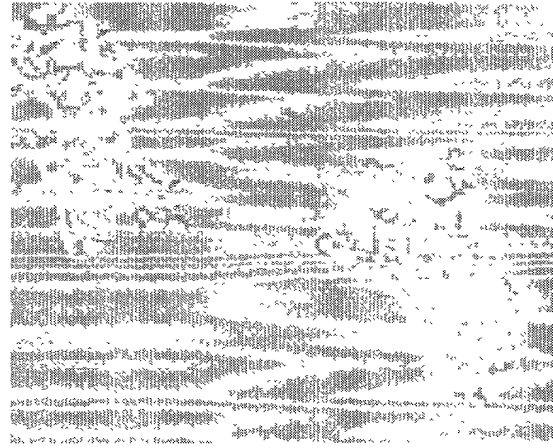
▶ S L L T T G A K A P L S Q S P Q P K Q Q P H R S I H

TGGCCCCTG

▶ W P L

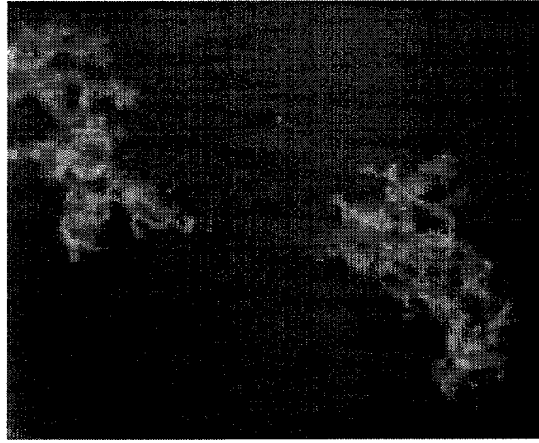
FIG. 8

**LIGHT AND FLUORESCENT MICROSCOPE IMAGES
CHIMERIC ANTIBODY TEDW BINDING TO *S. MUTANS***



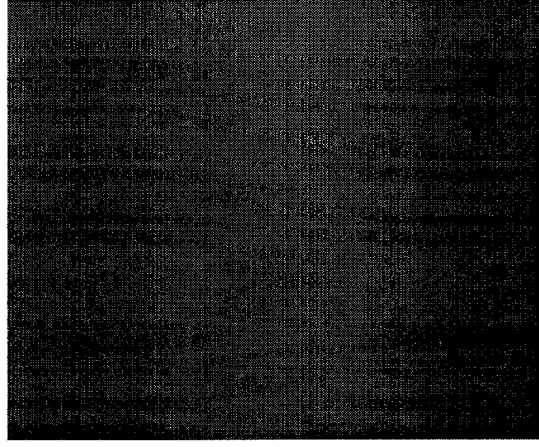
**S. mutans
+TEDW**

Light microscope



**S. mutans
+TEDW
+Sigma F9512**

Fluorescent microscope



**S. mutans
+TEDW
+Sigma F5387**